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ABSTRACT

Many decisions critical to instruction in the classrom are made prior to the beginning of the school day, and, in some cases, prior to the beginning of the school year. The allocation of time to subject areas, the organization of pupils for instructional purposes, and the determination of the content and emphasis of tasks within subject areas are all under the control of the classroom teacher. It is argued that these decisions and activities (1) can be determined with little ambiguity and their effects upon classroom instruction assessed; and (2) can be altered or adjusted with minimal cost, thus presenting a potentially powerful tool for educational research and policy. The first section of the paper provides a definition of teacher planning and examines some issues relating to what will and will not be considered planning in the paper. The second section presents a model or prototype of the process of teacher planning. Section three contains illustrative data analyses based on the model from two data sets: one from an urban school system and one from a suburban school system. Section four discusses some of the implications of the model and analyses, as well as the potential of teacher planning considerations for educational research and policy. (Author/MJB)

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Teacher Planning for Instruction

Jeffrey K. Smith

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STUDIES OF EDUCATIVE PROCESSES

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Table of Contents

Introduction 1

1. The Nature of Educational Planning 2

1.1 Planning on Planning: Designing and Intending 3

1.2 Planning by Default: Routines 4

1.3 Proximity of Planning Activities and Implementation 5

1.4 Degree of Control 6

2. A Model of Elementary School Teacher Planning 8

2.1 A Starting Point 10

2.2 Constraints on the Teacher 10

2.3 The Concept of a Time Continuity 14

2.4 Allocating Time to Subjects 15

2.5 Subject Content and Emphasis 24

2.6 Grouping Practices 26

2.7 Summary of the Model 28

3. Analyses of Selected Teacher Planning Issues 32

3.1 Background of the Analyses 32

3.1.1 The School Districts in the Study 32

3.1.2 The Nature and Quality of the Data 35

3.2 Areas of Analysis 36

3.2.1 The Weekly Subject Schedule 36

3.2.2 How Far in Advance Teachers Plan 38

3.2.3 Influences on Teacher Time Allocation Decisions 38

3.2.4 The Organization of Pupils for Instruction 41

3.2.5 Teacher Reliance on Instructional Series 47

3.2.6 Subject Time Allocations 49

4. Conclusions and Implications 54

4.1 Summary of Aspects of the Model 54

4.2 Implications for Educational Research and Policy 56

Introduction

An examination of reviews of literature (e.g., Dunkin & Biddle, 1974; Good & Brophy, 1973; Rosenshine, 1971) might lead one to conclude that investigation of the teaching-learning process begins in a classroom. It is the position of this paper that many of the critical decisions concerning teaching and learning in classrooms take place well before the morning school bell starts the school day; even in fact, before the start of the school year.

This paper concerns educational activities and decisions that necessarily take place prior to classroom instruction. These activities and decisions generally fall under the classification of planning. In particular, this paper is focussed on the elementary school teacher and the planning activities and decisions that are within her purview.

The contention here is that planning in general and teacher planning in particular is an important area for both educational research and policy. This contention rests upon three suppositions:

-- Planning decisions and activities greatly influence the quantity, quality, and nature of classroom instruction;

-- These decisions and activities can be determined with little ambiguity and their effects upon classroom instruction can be assessed;

-- The cost of making alterations and adjustments to these decisions is minimal and thus planning represents a potentially powerful tool for educational research and policy.

Although it is not the purpose here to establish the veracity of these suppositions, it is believed that they are reasonable and will be seen to be so in what follows. The purpose of this paper is to lay out the groundwork for examining planning at the elementary school level. Specifically it looks at planning from the perspective of the elementary school teacher: what is the content of her planning, how do her plans for teaching evolve, and what contributes to their evolution and their content.

The first section of the paper provides a definition of teacher planning and examines some issues relating to what will and will not be considered planning in the paper. The second section presents a model or prototype of the process of teacher planning. Section 3 contains illustrative data analyses based on the model from two data sets: one from an urban school system and one from a suburban school system. Section 4 discusses some of the implications of the model and analyses, as well as the potential of teacher planning considerations for educational research and policy.

1. The Nature of Educational Planning

Since the focus of the paper is the planning of elementary school teachers, it is necessary to define what we subsume under planning. Planning here is a teacher activity which precedes instruction, is concerned with presentation of instruction and is based upon

anticipation or expectation of classroom events (or classroom-related out-of-school events). Of course, there is a certain amount of arbitrariness in this brief definition as well as considerable ambiguity. The intent of the definition is to avoid preclusion of interesting and useful considerations in teacher planning simply because they do not fit a narrow view of the term. In order to clarify the definition while maintaining the beneficial aspects of its scope, some issues about planning need to be discussed. The issues concern not only teacher planning, but educational planning in general. They serve to provide a framework of educational planning into which a clearer picture of teacher planning might fit.

1.1 Planning on Planning: Designing and Intending

Planning has both a transitive and an intransitive form: one can plan in the sense of designing future activities or "making plans", and one can plan in the sense of intending to do something in the future or "planning on doing." The difference lies in whether the future is being actively worked upon or merely anticipated in a particular fashion.

Often teachers do not view the latter activity as planning; only when they are busy organizing future lessons or constructing materials do they consider themselves to be planning (Smith, 1977). While it may be easy enough to see the conceptual distinction between what might be called "active planning" and "passive planning", the two concepts

are interdependent. One cannot design activities for the future without some minimal level of intention of implementation; conversely, one cannot intend some future activity without some level of anticipation of the nature of one's participation. Further, the magnitude of one affects the magnitude of the other. The more effort a teacher puts into active planning, the more certain she becomes that the planned activity will in fact take place. Additionally, as her active planning increases she gains more control over the nature of the implementation of the activity. On the other hand, as the probability of an anticipated event increases, so will the tendency to actively plan for that event. For example, as a teacher sees that a review of the multiplication tables is becoming an increasingly likely occurence (as her intention to do this increases), she will be motivated to actively plan for that eventuality.

The dependency then, works in both directions. In general, the degree to which a teacher's plans are implemented depends (in part) upon the degree to which she is committed to them; both in the magnitude of her intention and in the degree to which she designs the nature of the future event. Therefore it is not useful to label one sense of the verb as planning. Teachers not only "plan for", they "plan on."

1.2 Planning by Default: Routines

When a teacher is actively engaged in planning (engaged in active planning), it is fairly easy to discern; it typically involves observable behavior. However, it can be difficult to observe someone in the process of intending. This is particularly true when the individual

is intending to do something that is a fairly commonplace activity for that person. Some things are intended without any substantial level of intellectualization on the part of the intender. It might even be questioned whether the person is intending at all as opposed to just "doing." This is the case when an individual does something that is part of a routine.

As will be seen later, routines play an important role in classroom instruction. For now, the question is: can a person who is intending to follow a routine be said to be planning to do those things which are part of the routine. While it is recognized that the question is debatable, in terms of this effort to answer "no" would severely limit the scope and usefulness of the concept of planning and would require continual evaluation of activities to determine if they were parts of routines. The intent here is not to have educational planning bounded by an arbitrary definition of intentionality. At some point and at some level of intentionality the component parts of a routine were organized and the decision to use the routine in certain settings was made. Thus, when a teacher relies on routinized activities in her classroom instruction, those routines will be included as part of her planning.

1.3 Proximity of Planning Activities and Implementation

If one took a still picture of an elementary classroom and then broke down all of the activities taking place in that classroom into component parts, one could ask when the decision to include each component

part was made and by whom. Some decisions are made immediately prior to their implementation (such as disciplinary actions); some decisions may have been made years prior to their implementation (such as decisions concerning which reading instruction method to use). To consider both decisions as planning decisions stretches planning beyond its usefulness as a concept. The decision concerning the instructional method could justifiably be considered a long-range planning decision. The disciplinary decision is probably more properly viewed as not a planning decision at all, but part of the complex interactive process of implementation. The decisions are similar in that they both affect classroom activities. The basis for the distinction between the two classifications is the time between the decision and its implementation. The concept of planning connotes the opportunity to deliberate and reflect on options available and the consequences of those options. Thus planning is bounded by time in its proximity to implementation but not by its distance from implementation as long as the activity can be viewed as being related to anticipation of a future event.

The final consideration in examining the nature of educational planning is the "by whom" part of the still picture analogy: who controls the decisions?

1.4 Degree of Control

If teachers had complete control of their classrooms, classroom life would be much different than it is. The control of the classroom activities that a teacher does have is affected by numerous influences,

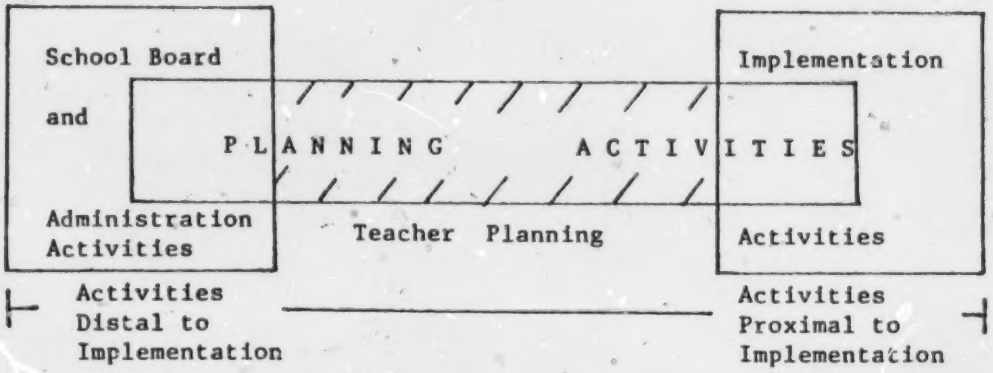
the strengths of which vary from teacher to teacher. Additionally, there are aspects of classroom activities which simply are not within the purview of the typical classroom teacher. Before looking at how teacher plans evolve and what influences their evolution, some preliminary notion of the realm of teacher-controlled activities would be helpful.

Typically, teachers do not control long-range planning decisions such as curriculum decisions, school schedules or the number of pupils per class. This is not to say that teachers do not ever participate in such decisions, rather that they do not control them for their own classrooms. These are usually board of education or school administration decisions. On the other end of the spectrum, teachers do not control all of the minute-to-minute aspects of classroom life. Again, they influence these aspects, but they do not control them.

In between the long-range planning decisions of boards of education and administrators and the daily activities of classroom life are the aspects of the educational process which are in the control of the individual classroom teacher. These are presented schematically in Figure 1. These aspects are not inconsiderable. By examining Figure 1 it becomes apparent that, in essence, the teacher is the mediator between what the board of education and administration intends classroom instruction to be and what it really is. The teacher is constrained by the policies and actions of administrators as well as the unique characteristics of her pupils and classroom setting. What then,

are the decisions and activities of the teacher with respect to planning, and how do those plans evolve?

Figure 1. Diagram of Planning Activities



We address this issue by presenting a model of the elementary teacher planning process in the next section. It is a rather loose model, and the term is used in want of a more accurate one. However loosely termed, the model serves well as a vehicle for simultaneously laying out the content of teacher planning and looking at the nature of and influences on the evolution of those plans.

2. A Model of Elementary School Teacher Planning

A logical starting point for developing a model of elementary teacher planning would be the literature on elementary teacher planning. Lamentably, almost all of the literature on teacher planning is literature on how teachers should plan, not how they do plan (e.g., Saylor & Alexander, 1974; Beauchamp, 1968; NEA Project on Instruction, 1964; Krug, 1957). This is not to say that there is no literature whenceso-

ever, but that the literature that exists (Harnischfeger and Wiley, 1975; Harnischfeger, et al., 1976; Swalm & Hunt, 1974; Mann, 1928) either focusses on single aspects of teacher planning (e.g., time allocations) or is speculative in nature rather than empirically based.

Faced with this lack of prior guidance, it is necessary that the boundaries of teacher planning be surveyed. The purpose of presenting a model of the process of elementary teacher planning is to lay out those boundaries. Through the presentation of the model, the relevant issues of teacher planning can be explicated and potential areas for further research may be discerned.

The model is limited to traditionally organized elementary school classrooms where one teacher directs the majority of the activities of a single group of pupils. While there have been innovations in teaching which involve several teachers or movement of pupils from class to class, it is believed that one teacher, one group of pupils, and one classroom is by far the most prevalent setting in American elementary schools. Additionally, aspects of this limited model may prove to be generalizable to other teaching situations.

The model was developed from a series of interviews and questionnaires from a study of elementary school teachers in urban and suburban school districts (Smith, 1977). It is presented without direct empirical support although Section 3 will provide some substantiation for

what appears in the model.

It is not being suggested here that all teachers follow the model as presented or even that any teacher follows it exactly. What is being suggested is that most teachers follow many aspects of the model and that many teachers would find the model a good, if rough, description of their planning.

2.1 A Starting Point

Before the school year begins, the typical elementary school teacher is provided with considerable information about her upcoming activities. She knows what grade she will teach and which classroom she will have. She knows who her pupils are, at least through their prior records and often through anecdotal data provided by former teachers. She knows her school day schedule: the times allotted for recess, physical education, art and music specialists, etc. She also knows what materials are available, perhaps even mandated, for her use. Armed with this information, she begins to plan one year's worth of the academic life of eighteen to thirty-five children.

2.2 Constraints on the Teacher

How does the process take place? To begin, the teacher has to work within constraints imposed upon her by the school administration. In the lives of her pupils, the school year is one link in a chain of formal academic activities that started when they were five years old

and will continue until the chain is ended, voluntarily by the pupil, or otherwise. In general, the individual teacher has little influence in the formal determination of the whole chain (the curricular decisions of the school system), or sections of the chain (the purchasing of instructional "series" such as basal readers). The teacher may participate in these decisions as a member of a curriculum committee, but it is the intent of most school districts to have administrators fashion chains and teachers work on links. Thus, for the individual teacher, the formal curriculum is more a constraint than an area for decision-making.

A second constraint is the prior achievement of the pupils in the teacher's class. In order for the teacher to plan properly, she must be sensitive to her pupils' prior achievement and the rate at which they optimally receive instruction. A teacher might well be presented with a range in pupil ability such as in Table 1. This variation in pupils' cognitive characteristics presents three specific tasks for the teacher: (1) she must locate starting points for the academic year for her pupils, (2) she must address the issue that the optimal starting points for different pupils will differ, (3) she must recognize that pupils will progress at different rates.

Table 1. 10th and 90th Percentiles of Grade Equivalent Scores on a Standard Reading Comprehension Test in a Large Metropolitan School District, By Age.

Age	10th Percentile	90th Percentile
7	1.30	4.06
8	1.79	4.75
9	2.13	5.41
10	2.46	6.40
11	2.77	7.45
12	2.96	8.84

A third constraint concerns the practical realities of the teacher's instructional setting. By instructional setting it is meant the physical, organizational and temporal environment in which instruction takes place. The physical environment is the teacher's classroom. The size and acoustics of the room, the type of desks or tables available, the location of the blackboards, and other factors related to the classroom affect the decisions that the teacher makes.

The organizational environment includes the resources available to the teacher, such as aides, computerized instruction, and teacher special-

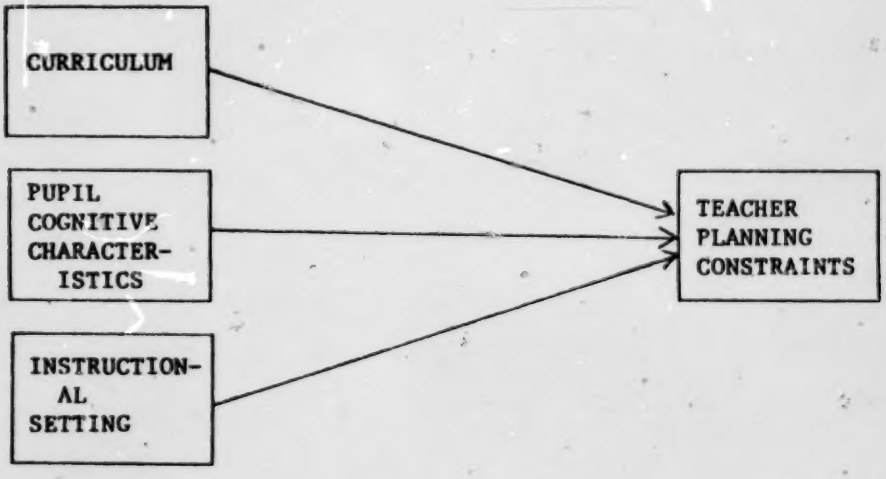
ists. It also includes the structure and influence of the administration and organization of the faculty. These resources and structure affect the flexibility that the teacher has and consequently, her planning.

The temporal environment is the weekly school schedule that the teacher has for her class. This schedule includes the starting time of school in the morning; how much time will be taken for announcements; when the class goes to recess, physical education, art, and other specialists; when lunch is and when the school day ends. Teachers recognize the difficulty of maintaining instructional continuity if a break occurs in the middle of a lesson and typically plan around such breaks. Also, there is an almost universal belief that pupils learn better in the morning and teachers schedule subjects with this in mind. This school schedule almost invariably occurs in a weekly pattern such that all Mondays are identical, Tuesdays, Wednesdays, etc. The physical, organizational, and temporal environment for teaching constitutes the teacher's instructional setting, the third constraint upon teacher planning.

The three constraints on teacher planning which have been discussed thus far have been rubricated as (1) curriculum, (2) pupil cognitive

characteristics, and (3) instructional setting. These influences might be graphically displayed. Figure 2 represents a beginning for a model of teacher planning. It abstracts the constraints on a teacher when she begins her planning.

Figure 2. Diagram of Teacher Planning Constraints



2.3 The Concept of a Time Continuity

Within the constraints just detailed, the teacher has substantial latitude in her planning. Assuming a typical 180-day school year and a six hour school day, a teacher with twenty-five pupils has approximately 27,000 pupil-hours of instruction to plan and that time is pretty much hers to organize. The teacher of course does not think in these terms. The teacher thinks in terms of days, weeks, and occasionally the time between major vacation breaks. The underlying feature of

her planning with respect to these different units of time is continuity. Days and weeks are in a sense complete, continuous time units in that they are delineated by sections of time that are unavailable for classroom instruction. That is, pupils are not available for instruction in the evening or on weekends. The times in between these breaks are viewed as wholes by the teacher. This notion of a time continuity exists within a day also. Pupils are not available for instruction when they are at recess, lunch, physical education, etc. Therefore the times in between these school-scheduled breaks are viewed as whole also. While many teachers do not make these distinctions consciously, it is clear that they enter into their planning. It is through the use of these time continuities which occur in regular cycles, that the teacher reduces the 27,000 pupil-hours to something that is manageable.

2.4 Allocating Time to Subjects

With an understanding of the concept of time continuities and a knowledge of the constraints that are placed on the teacher, the actual process of teacher planning can be examined. The first, and perhaps most critical decision that the teacher makes involves determining the relative importance of the various subject matter areas that she teaches. She does this by making rough estimates of the amount of time that she wishes to allocate to each subject. While the class-

room teacher does not control what subjects are taught at her grade level, she has almost complete control over how much time to allocate to them. The influences on teachers when they make these time allocation decisions will be examined in detail in Section 3, but it should be noted here that administrators do not exert a major influence on these decisions and typically do not even know what decisions teachers make. Teachers rely primarily on their own training and experience when making rough estimates of time allocations. Having made rough estimates, usually in terms of how much time to spend per day in each subject, the teacher turns to the weekly school schedule to fit her estimates into the schedule. In doing so, typically she will strive not to have a subject area continue across a scheduled break in the day, nor to teach the same subject area twice in one day. Each subject, especially reading and mathematics, will appear almost every day. Trying to fit estimates into time continuties often results in modifications of these estimates. For example, if recess occurs at 10:20 each morning instead of 10:40, the teacher may cut twenty minutes from the time allocation for reading. This may seem trivial, but over a 180-day school year, this represents 3600 minutes or 60 hours of instruction. The weekly school schedule thus has an important influence on what might be called the "weekly subject schedule," but it is difficult to determine a priori what the effect will be for particular classes or pupils. In order to illustrate the important but unpredict-

able influence of the weekly school schedule, it would be useful to refer to a hypothetical weekly school schedule for a Ms. Stevens' fourth grade class.

Figure 3. Ms. Stevens' Weekly School Schedule

	Mon	Tues	Wed	Thurs	Fri
9:00 - 9:30					
9:30 - 10:00				Music	
10:00 - 10:30				Music	
10:30 - 11:00	Recess	Recess	Recess	Recess	Recess
11:00 - 11:30					
11:30 - 12:00		Library			
12:00 - 12:30	Lunch	Lunch	Lunch	Lunch	Lunch
12:30 - 1:00					
1:00 - 1:30	Gym		Gym		
1:30 - 2:00	Gym		Gym		Art
2:00 - 2:30					Art
2:30 - 3:00					

Ms. Stevens has determined the following rough daily time allocations for each subject in her class:

Reading: 1 to 1½ hours

Mathematics: 1 hour

English: ½ to 1 hour

Social Studies: ½ hour

Science: ½ hour

Ms. Stevens knows that her rough estimates combine to make an approximate school day if outside classroom instruction, such as music, art, physical education, and lunch and recess periods are added. Now she must enter these estimates into her week such that it all "fits". In fitting her schedule, Ms. Stevens will be careful not to schedule any subject across a break and will try to include almost every subject into each day's schedule. These concerns will necessitate increasing some subject time allocations and decreasing others. The final organization of this weekly schedule depends upon the teacher. Figure 4 shows two possible designs for Ms. Stevens' schedule.

Figure 4 was generated by having an experienced teacher fill in Ms. Stevens' schedule on the basis of Ms. Stevens' estimates of subject importance (rough time allocations). After Schedule 1 was completed, the teacher was asked to make another schedule with the same estimates, but with the additional constraint that math be taught first.

Figure 4. Possible Weekly Subject Schedules

	MON.	TUES.	WED.	THURS.	FRI.
9:00 - 9:30	READING	READING	READING	ENGLISH	READING
9:30 - 10:00					
10:00 - 10:30					
10:30 - 11:00					
11:00 - 11:30	MATH	MATH	MATH	MATH	MATH
11:30 - 12:00			SOC. ST.		
12:00 - 12:30					
12:30 - 1:00	ENGLISH	ENGLISH	ENGLISH	READING	ENGLISH
1:00 - 1:30					
1:30 - 2:00	SOC. ST.	SCIENCE	SCIENCE	SCIENCE	
2:00 - 2:30					
2:30 - 3:00		SOC. ST.		SOC. ST.	SOC. ST.

SCHEDULE 1

	MON.	TUES.	WED.	THURS.	FRI.
9:00 - 9:30	MATH	MATH	MATH	SOC. ST.	MATH
9:30 - 10:00					
10:00 - 10:30	SOC. ST.	SOC. ST.	SOC. ST.		SOC. ST.
10:30 - 11:00					
11:00 - 11:30	READING	READING	READING	READING	READING
11:30 - 12:00					
12:00 - 12:30					
12:30 - 1:00	SCIENCE	SCIENCE	SCIENCE	SCIENCE	SCIENCE
1:00 - 1:30				MATH	
1:30 - 2:00					
2:00 - 2:30	ENGLISH	ENGLISH	ENGLISH	ENGLISH	
2:30 - 3:00					ENGLISH

SCHEDULE 2

Table 2 contains the actual weekly time allocations resulting from the two schedules.

Table 2. Hours of Instruction Allocated under Schedule 1 and Schedule 2.

Subject	Hours of Instruction Allocated	
	Schedule 1	Schedule 2
Reading	7.00	5.75
Mathematics	5.25	5.00
English	3.50	4.50
Science	3.00	4.00
Social Studies	3.00	2.50
Total	21.75	21.75

Under Schedule 1, Ms. Stevens' pupils would receive 23 percent more reading instruction, 5 percent mathematics instruction, and 20 percent more social studies instruction than under Schedule 2. Under Schedule 2, Ms. Stevens' pupils would suffer in these areas just

mentioned, but would receive 43 percent more English instruction and 25 percent more science instruction. It is important to note here that either schedule is entirely possible. The effect of the weekly school schedule upon time allocations appears to be simultaneously important and capricious.

Once the teacher has determined a weekly subject schedule, she can simply repeat this scheduling in a cyclical fashion. The schedule is likely to remain intact for the school year with the possibility of modifications occurring between semesters or major vacation breaks. One of the most important consequences of the weekly subject schedule is that it almost completely determines the amount of instructional time that is allocated to various subjects for the year. By multiplying the minutes allocated per week for a subject by the number of weeks in the school year, one could obtain an estimate of the number of minutes per year for that subject.

In summary, the first section of the model identified those aspects of planning over which the teacher has little control. They were the major curricular decisions, the pupils' cognitive characteristics and the instructional setting. Then, in this section we have discussed

how the teacher begins to operate within those constraints. The typical teacher first organizes her planning around the weekly school schedule to arrive at what might be called the "weekly subject schedule." That process can be summarized as follows:

(1) the basic goal is to establish a weekly pattern of subject time allocations,

(2) the teacher makes rough determinations of how much time to devote to each subject,

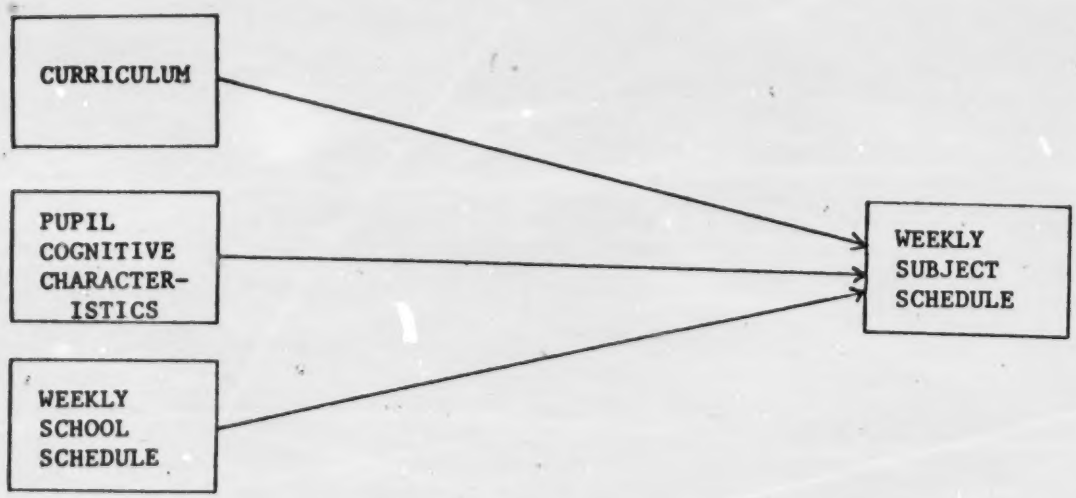
(3) the teacher fits these approximations into her weekly school schedule such that she does not have to cross over scheduled breaks and such that each subject appears almost every day.

Figure 2 can now be refined. The weekly subject schedule, which is a major component of teacher planning, has been identified and variables which affect this component have also been posited.

First, the curriculum specifies which subjects will be taught at a particular grade and thereby controls the subjects which are to be included in the weekly subject schedule. Second, the pupils' cognitive characteristics influence the allocations. A group of pupils with low reading achievement for, say, fourth grade might receive

more reading instruction than a group with higher achievement. The third factor is the weekly school schedule. This had been contained as part of the instructional setting before, but since it is so critical to the weekly subject schedule, it merits separation from the physical and organizational aspects of the classroom. Finally, characteristics of the teacher affect the weekly subject schedule, since the teacher makes the rough estimation of subject importance and fits these estimations into the schedule. Some characteristics of the teacher which may affect time allocations will be discussed in Section 3. Utilizing the same type of graphic technique as in Figure 2, the influences on the weekly subject schedule are represented in Figure 5.

Figure 5. Diagram of Influences on Weekly Subject Schedule



The construction of a weekly subject schedule reduces the 27,000 pupil-hours of instruction that face the teacher into something that is more manageable. Further, it almost completely determines the amount of instructional time that is allocated to various subject areas for the year.

2.5 Subject Content and Emphasis

The weekly subject schedule solves many problems for the teacher, but a substantial number of planning issues remain unresolved. Four related issues among those unresolved are:

-- What learning tasks are selected to comprise the content of particular subject matter areas?

-- How are these learning tasks arranged into units and ordered for presentation?

-- How are these tasks presented to pupils?

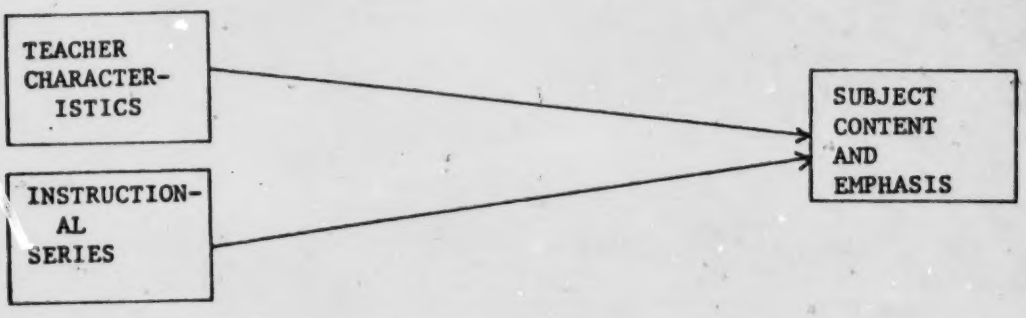
-- How much time will be spent on each task?

If one considers, for just one subject area, the number of learning tasks that might be presented to pupils, the number of ways of arranging the tasks into units and ordering the units, and the number of potential methods of presentation and different time emphases that tasks might receive, the possibilities can be overwhelming. How does a teacher approach such a complex task for four or five subjects? To

state the answer somewhat overly simply, the teacher doesn't. Textbook publishers do. The curricular series that the school has purchased has already made the decisions about what tasks to include, how to arrange and order them, how to present them to pupils, and how much emphasis they will receive. Teachers modify and augment these decisions to varying degrees, but for the most part, teachers work within the framework provided by the publisher.

The publishers' influence is not equally strong in all four areas listed; it is strongest in the first and becomes progressively less strong moving down the list. The reason for this is that the influence is not a coercive one. Teachers are usually free to modify materials as they see fit. However, modification means that the teacher must undertake activities, such as organizing and producing materials, which are not necessary if she does not object too strenuously to the instructional materials of the publishers. Modifications grow somewhat simpler (in terms of teacher effort required) as one moves down the list. The four issues taken together might be called "subject content and emphasis" and the influences on the issues would be diagrammed fairly simply as in Figure 6.

Figure 6. Diagram of Influences on Subject Content and Emphasis



2.6 Grouping Practices

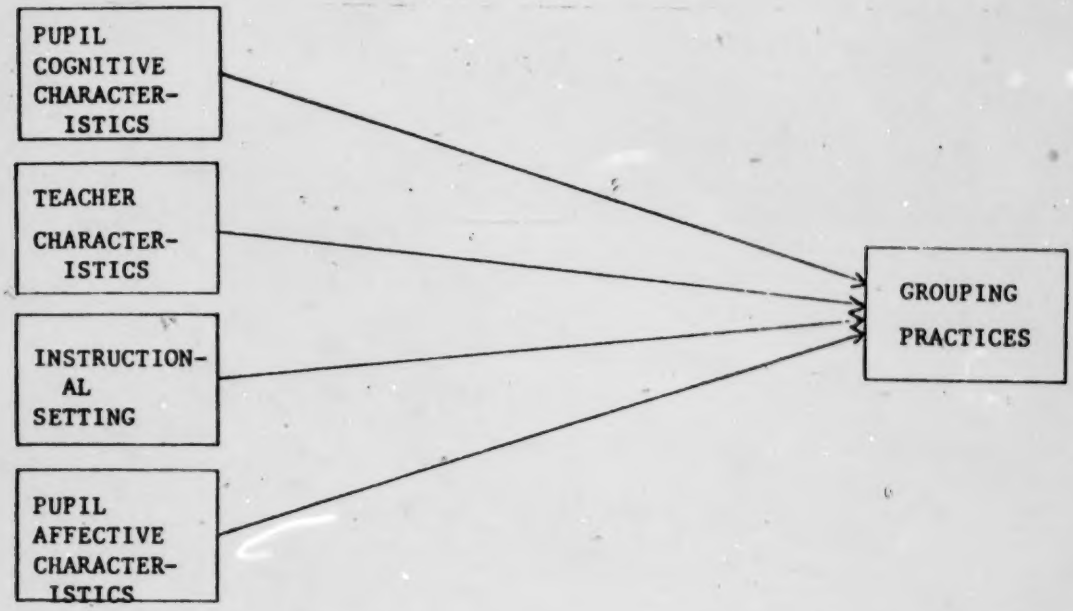
Consideration of one more issue will complete discussion of the compo-ent parts of the model. One of the constraints that the teacher has to address is the different cognitive characteristics of her pupils. There are three ways in which teachers deal with this problem. First, they might choose to ignore the differences. This seems rather crass, but it is a method of dealing with the problem and is used frequently in subjects such as science or social studies, where academic progress is often considered by teachers to be less than critical. Second, teachers might choose to individualize instruction so as to tailor the instruction to the needs and abilities of individual pupils. Ideally, this is a very attractive solution from a pedagogical viewpoint. It is however, very difficult to implement to a great extent in the classroom. The third choice that is presented to the teacher

is to group the pupils within her classroom for purposes of instruction. An example of this would be to organize the pupils into three groups for reading instruction. All three groups may be using the same instructional series; they may even be in the same reader, but they would be located at different points in that reader and would be progressing at different rates.

The teacher is usually free to determine how to organize her pupils for instruction. She may use one grouping method for reading and another for mathematics; she may combine grouping methods within a subject. In making these decisions, the teacher is not only influenced by the cognitive characteristics of her pupils, but the affective characteristics as well. Some pupils may work well in groups, others alone. The physical and organizational characteristics (instructional setting) are also critical. Teacher aides greatly increase the flexibility that a teacher has in making grouping decisions as do the acoustics, amount of room, type of desks and chairs, and location of the blackboards. Not only do resources affect the flexibility that teachers have to make instructional groups, they also affect the make-up and nature of the groups. It often takes time and experimentation for a teacher to find workable methods of organizing

pupils for various subjects. The influences on grouping practices are presented in Figure 7.

Figure 7. Diagram of Influences on Grouping Practices



2.7 Summary of the Model

With the discussion of grouping practices, all of the elements necessary to the model have been introduced. These elements can now be coordinated to present a complete picture of teacher planning. The

process begins when the teacher receives information about the upcoming school year. Within the constraints of the school curriculum and her weekly school schedule, the teacher constructs her weekly subject schedule. This construction translates her ideas about how important each subject is into time allocations which will be implemented in a regular weekly cycle. The next step in the process concerns the content of instruction. The instructional series that are used in the teacher's school are important determinants of both the content and the emphases placed on topics or tasks within the different subjects as well as the methods of presentation of instruction to pupils. However, some teachers modify the instructional series, sometimes extensively. Finally, the teacher determines how to organize the pupils for instruction. She has the options of presenting instruction to the class as a whole, to small groups, to the pupils individually, or in combinations of these. The method or combinations of methods that she selects is influenced by the cognitive and affective characteristics of her pupils, the physical characteristics of her classroom and organizational environment of the school, the instructional resources available to her, and by her own preferences.

Having gone through the process described above, the typical teacher

will lay out one or two week's worth of instruction for her class. In doing so, she engages in two separate types of activities. The first activity is basically scheduling. This involves estimating how much of an activity in a particular subject will occur during the time continuity for which it is scheduled. If the teacher has seventy-five minutes allocated for reading on Monday, she estimates how much of the instructional series in reading will be covered during that time. The estimation for Tuesday will depend upon Monday's estimation and so on for as far in advance as the teacher plans. When the teacher is relying solely upon the instructional series, this is the only activity required of her. If, however, the teacher modifies the instructional series substantially, her planning is much more complicated. She has to make decisions about what to teach and what emphasis it should receive. She also has to develop instructional materials or obtain them from some other source. If she is going to utilize projects (such as book reports or science projects), they must be organized and fit into the weekly subject schedule. This second type of activity is probably much closer to what is usually considered teacher planning. Very few teachers rely solely on published materials or their own, so the typical teacher will participate in both types of activities when laying out a one or two week plan.

The final phase of a teacher's planning is her preparation for the following day. The teacher's one or two week plan is adjusted on a daily basis according to what happened during each day's instruction. Some teachers revise according to the pupils' affective response and others according to the pupils' cognitive response. Perhaps surprisingly, the affective response of the pupils is often a stronger influence than the cognitive response. Also interesting is the fact that teachers almost always revise their schedule in order to spend more time on a task or activity than planned; rarely does the actualization of plans take less time than anticipated. The cumulative effect of this lengthening of plans is that tasks and units that might have been presented at the end of the year are sometimes never presented at all.

Before ending discussion of the model, some mention should be made of the time between major vacation breaks and between grading periods. Teachers often use this time for major revisions. Sometimes the weekly subject schedule will be changed and often small instructional groups will be restructured between these largest of time continuities. Further, instructional projects are often planned to be completed at the end of a time continuity.

The model has now been fully described. Its major elements, the weekly subject schedule, decisions about subject content and emphasis, and decisions about instructional grouping have been described, and the variables which influence those elements have been posited. A graphic representation of the entire model is presented in Figure 8. It should be remembered in looking at Figure 8, that this model is presented from the perspective of teacher planning, hence some arrows which might seem logical are not present. For example, one would naturally expect an arrow from curriculum to subject content and emphasis. However, it might be more reasonable to think of the influence as running from curriculum to instructional series to subject content and emphasis. In either case, it is not a consideration in teacher planning.

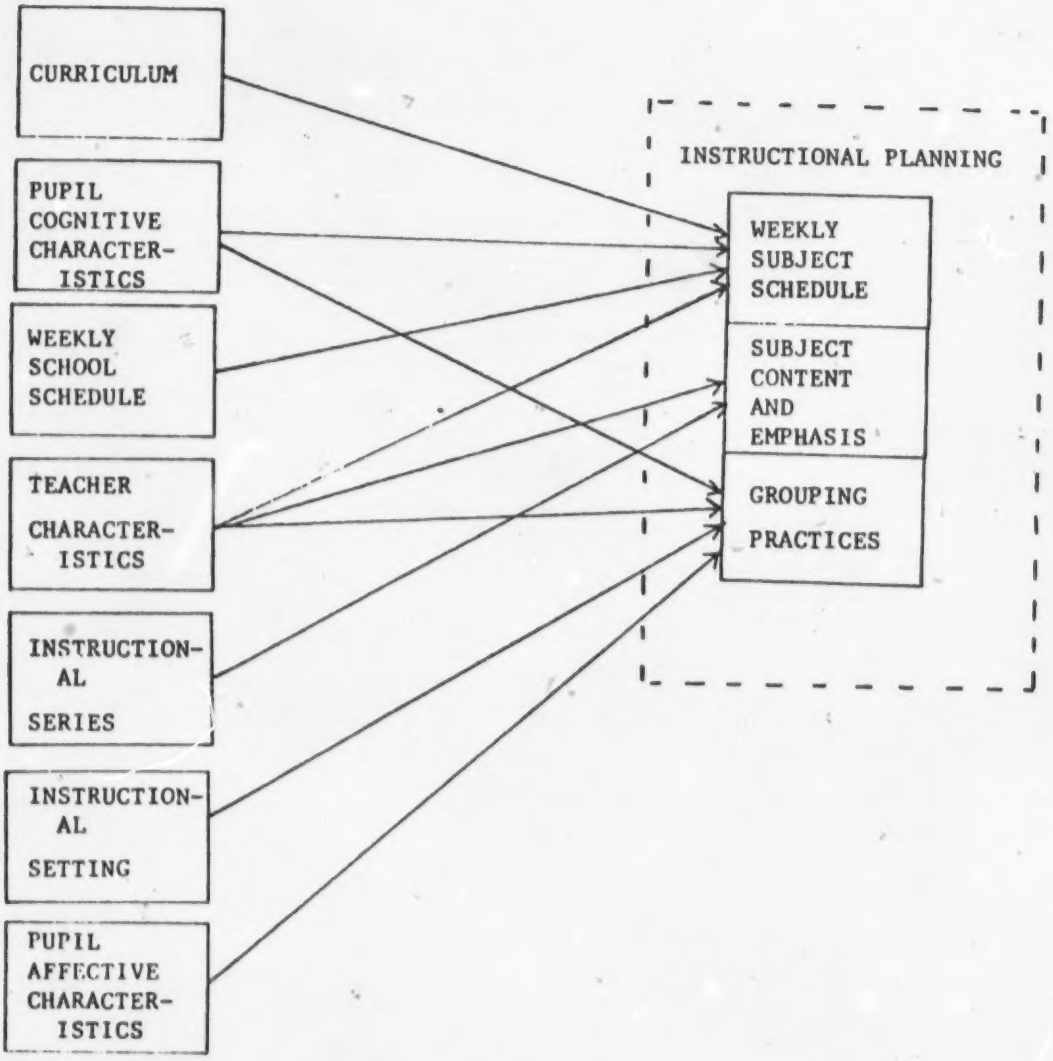
3. Analyses of Selected Teacher Planning Issues from Two School Districts

3.1 Background of the Analyses

3.1.1 The School Districts in the Study

As mentioned, the model was developed as the result of a study of teachers from two school districts. In addition to a series of interviews with the teachers, a questionnaire called the "Teacher Planning

Figure 8. Model of the Teacher Planning Process



Survey"* was distributed to teachers from each district. Analyses presented in this section are based on the results of the questionnaires returned.

The suburban district. The suburban district is a small, upper-middle class, predominately white district with approximately 3000 students. The district has an administration which encourages initiative and creativity in individual teaching activities. It has three kindergarten-through-third grade schools, a fourth-grade-only school, which was created to comply with desegregation pressures, and a fifth-through-seventh grade school with the seventh grade being taught departmentally (as in a high school). There has been a recent increased emphasis on pupil test performance as a criterion for teacher evaluation (and a concomitant rise in union membership), but teacher evaluation is still primarily informal principal evaluation of classroom "atmosphere." All eighty-five teachers in this district received the questionnaire and thirty-one returned completed questionnaires.

The urban district. The urban district is a large metropolitan district with over 250,000 students. Over three quarters of the students and 30 percent of the teachers are from minorities. The district

*Copies of the "Teacher Planning Survey" may be obtained from the author.

has a strong administration and a strong teachers' union. The single most important criterion for teacher evaluation at the elementary level is the reading comprehension score from the annual standardized testing. Eleven schools were selected from this district so as to provide a representation of the district in terms of school size, racial composition of pupils and faculty, and socio-economic status of the attending area. Two hundred forty-five teachers received the questionnaire (including ten seventh and eighth grade teachers who teach non-departmentally); fifty-six returned completed questionnaires.

3.1.2 The Nature and Quality of the Data

The questionnaire is five pages long and takes between one and two hours to complete. It contains items to which many teachers would not care to have administrators see responses. While anonymous, the return of the questionnaires almost always went through an intermediary. Teachers returned questionnaires to a central location in the school where the investigator picked them up. This was done in order to facilitate the return of the questionnaire. Unquestionably, either the length or content of the questionnaire dissuaded some teachers from responding. The pool of respondents is in danger of representing a biased sub-population of the elementary teachers in the two districts. While there was no systematic effort to ameliorate this problem, demographic characteristics (sex, age, race, teaching experience, grade level taught) of the respondents were compared to those

of the receiving sample as a whole. The only discernable difference was that no fourth grade suburban teachers responded.

A second issue with respect to the quality of the data is the forthrightness with which respondents answered the items. Social desirability of responses is always a problem in questionnaires. There is an additional problem here in that there may be systematic misperception on the part of teachers who are trying to respond as honestly and frankly as possible. There are, in fact, a few discernible situations which are evident in the responses and the danger exists that there are more which are less easily discernible. It is apparent however, from examination of the data that teachers in the main gave responses which were both honest and frank and which did not differ substantially from data gathered in interviews with teachers prior to the administration of the questionnaire. Thus, while some caution and consideration of the possibility of bias should be applied individually to the analyses presented, it is believed that, on the whole, the analyses are both worthwhile and illuminating of the planning process.

3.2 Areas of Analysis

3.2.1 The Weekly Subject Schedule

One of the major contentions of the model was that teachers organize

their planning on a weekly basis. Some teachers routinize their schedule even more severely, organizing their planning on a daily basis. For these teachers, every subject is taught at the same time, for the same length of time, every day. In the questionnaire, teachers were asked whether they followed a weekly-based scheduling like the one presented in the model, a daily basis, a pattern other than those two, or no pattern at all. In the urban district, 92 percent of the teachers responded that they organized on a daily or weekly basis; in the suburban district, 86 percent indicated organizing on a daily or weekly basis. Further, 77 percent of all teachers responded that they could say what subject they would be teaching at a given time four weeks in advance.

These results strongly suggest a weekly subject schedule (there were only a few teachers indicating daily schedules, which is simply more routinized than weekly scheduling, so they were included in the percentages given). While this result was not unexpected in the somewhat regimented urban school district, the pervasiveness of the weekly subject schedule in the suburban district was surprising. The suburban district prides itself on being progressive. This finding suggests that there are some aspects of planning which are highly common.

3.2.2 How Far in Advance Teachers Plan

Teachers were also asked how far in advance they plan. The question was specified to mean "well enough that you could give a schedule of what lessons will be worked on at specific times." A few teachers responded that such plans would extend for three or four weeks and a few said that they plan for no more than two days in advance. Over 80 percent indicated that they plan one to two weeks in advance. The mean response for urban teachers was 1.53 weeks, for suburban teachers, 1.27 (urban/suburban difference, $p<.1$). Primary (kindergarten through third grade) teachers tended to plan less far in advance than upper elementary (fourth through sixth grade) teachers, 1.31 to 1.60 weeks on the average ($p<.05$). This would be expected since teaching and learning in primary classrooms tend to be less predictable than in upper elementary classrooms. Number of years of teacher experience and teacher education had no systematic effect on how far in advance teachers plan.

3.2.3 Influences on Teacher Time Allocation Decisions

It has been stated that one of the most critical decisions that the teacher makes concerns the allocation of time to various subjects. In order to assess the influences on teachers when they make these decisions, the teachers in the two districts were asked to rank a

list of ten possible influences. Their mean responses, broken down by urban/suburban district, are presented in Table 3.

Table 3. Responses to Question Concerning Influences on Teacher Time Allocation Decisions.

	Ratings of Importance*			
	Suburban Teachers		Urban Teachers	
	Mean	S.D.	Mean	S.D.
Student enthusiasm toward the subject	6.03	2.08	4.91	2.67
The importance of this subject for all students to learn	7.93	1.36	7.38	2.18
The importance of this subject for this (particular) class	6.00	3.01	6.59	2.38
State, district or local guidelines	5.50	2.68	5.38	2.88
There are good materials available to teach this subject	2.40	2.13	1.89	2.20
Subject is enjoyable for me to teach	3.43	2.40	2.93	2.54
Students express desire to learn this subject	5.27	2.38	5.27	2.74
Other teachers seem to spend a lot of time on this subject	0.77	1.36	0.55	1.01
Principal or other administration encourages time on this subject	3.27	2.88	4.55	3.26

*Teachers responding checked the factors which influenced their decisions, and then rank ordered the responses they had checked. Those responses which were selected were given numbers beginning with 9 (most positive response) in descending steps (8, 7, etc.) to the lowest selected. Other responses were assigned a 0 ("zero"). Results were then averaged.

The primary influence on teachers in making time allocations is the teacher's estimation of the importance of the subject, either in general or to the class being taught in particular. Thus, the teacher considers herself as the person ultimately responsible for making time allocation decisions and her personal estimation of subject importance as the primary determinant of what that allocation will be. This was the case for both suburban and urban teachers.

However, suburban and urban teachers differ somewhat in other respects. The suburban teachers are more strongly influenced by the response of their pupils to instruction and subject matter, while the urban teachers rate the influence of administrators more highly than suburban teachers. This is reflective of a general sense of more freedom and latitude in decision-making found in the suburban teachers.

Primary teachers rated the inherent importance of the subject matter more highly than did the upper elementary teacher ($p < .05$). Upper elementary teachers rated "subject is enjoyable for me to teach" more highly than the primary teachers ($p < .05$). These results may be attributable to inherent differences in the typical subject orientations in primary and upper elementary grades. Primary teachers

almost always allocate large blocks of time to reading since it has traditionally been the charge of primary teachers to teach children to read. This may be viewed as making allocation decisions based on subject importance by teachers, since literacy is generally regarded as the most critical skill assigned to schools by society. On the other hand, there is more diversification of subject areas in the upper elementary grades, allowing upper elementary teachers more latitude to emphasize those subject areas they enjoy teaching.

One of the more interesting findings in the responses to this question is the relatively low standing of the influence of guidelines and administrators. External influence from administrators and guidelines is tertiary to subject importance and pupil influence in the suburban sample and secondary along with pupil influence in the urban sample. It is clear that decisions on time allocations are made autonomously by teachers. As will be seen from later analyses, the allocations that teachers make are widely divergent. If time allocations influence pupil achievement, then the decision-making process through which these decisions are made might merit closer scrutiny by administrators and researchers alike.

3.2.4 The Organization of Pupils for Instruction

As discussed in the presentation of the model, teachers need to address

the fact that pupils vary in the level of their academic development at the beginning of the year, and in the rate at which they learn. Teachers usually address this problem by organizing pupils into various groupings for the purpose of instruction. The three most prevalent methods of organization are whole class instruction, small group instruction, or individualized instruction.

While teachers are generally free to organize pupils for purposes of instruction, there are several influences on their ability to use these groupings. In the questionnaire, teachers were asked specifically about their usage of small groups. In particular, they were asked: if they used small groups for instruction, if they changed the size and/or composition of the groups, and how they placed pupils into groups (formed their groups). It was found that over 93 percent of the suburban and 91 percent of the urban teachers use small groups for reading instruction. The composition of the reading groups was changed by teachers during the year for all but 6.5 percent of the suburban and 1.8 percent of the urban teachers. The suburban teachers tend to use a fixed number of reading groups more than their urban counterparts (32.3% to 16.1%). The suburban teachers rely primarily on their own impressions of pupil ability and prior achievement of pupils in forming groups while the urban teachers rely upon tests that

they construct in addition to their impressions of pupil ability. This grouping difference between urban and suburban teachers might be attributable to the method of reading instruction encouraged by the administration in the urban district. The urban teachers have to keep detailed records of pupil growth and therefore test frequently. In addition, there is a strong emphasis of the urban administration to individualize reading instruction. The urban teachers tend to reorganize their groups more frequently, suggesting more frequent evaluation of pupil needs and progress.

There was somewhat less grouping taking place in mathematics instruction with 16 percent of the suburban and 14 percent of the urban teachers not grouping at all in that subject area. Changing both the number and the composition of the groups over the year was the typical situation in both districts. Teacher impressions of pupil ability and teacher-made tests were the primary bases for forming groups for both urban and suburban teachers.

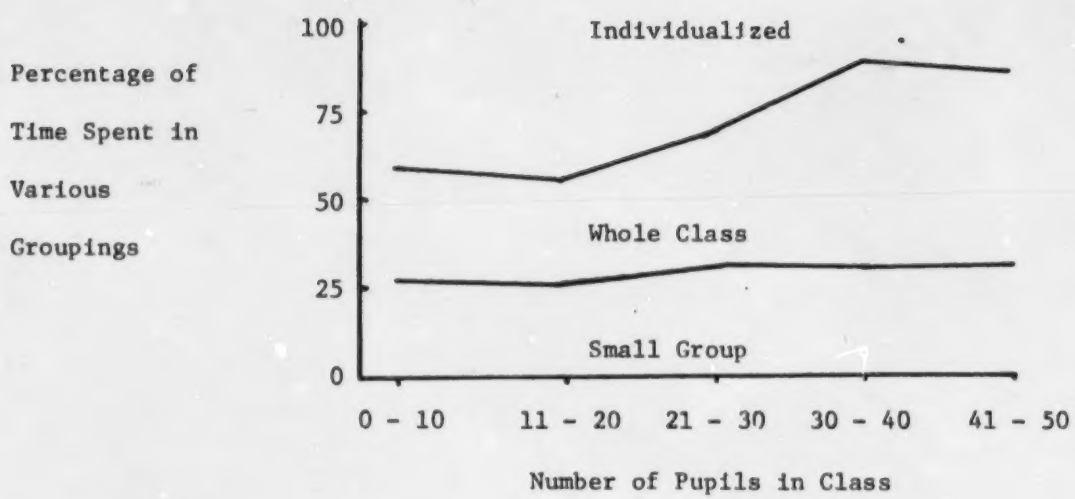
Looking at characteristics of teachers and their classrooms as related to grouping practices, several interesting relationships were found. First, only the primary teachers (from both districts) reported basing any of their grouping on non-academic factors. Ability

grouping was the only type of grouping taking place in the upper elementary years. This suggests that cognitive differences among pupils precipitate small group instruction. It would be interesting to assess the effects of class homogeneity versus heterogeneity on grouping practices of teachers. Teachers were not asked directly about why they decided to use small group, individualized, or whole class instruction.

Second, as the number of pupils in the class increases, the percentage of small group instruction remains fairly constant, but the percentage of whole class instruction increases concomitantly (see Figure 9). This suggests that increasing class size results in a rather direct shift from individualized to whole class instruction. It is difficult at this point to more than speculate about the reason for this, but it may be the case that teachers use small groups because of their training and independently of class size.

Third, primary teachers use whole class instruction less than upper elementary teachers (22.4% to 36.7%). This may be due to whole class instruction being used exclusively in subjects such as social studies or science which are allocated more time in the upper elementary grades. Also, it is possible that the nature of basic skills instruction

Figure 9. Percentage of Time Spent in Various Groupings by Number of Pupils in Class.



(reading, mathematics) lends itself more to small group instruction (or less to whole class instruction).

Fourth, teachers with more experience tend to use individualized instruction more than less experienced teachers (39.3% to 24.3% for teachers with 0 to 7, or 8 or more years of experience), but there is no systematic difference in the amount of small group instruction.

The organization of pupils for instruction is particularly interesting for two reasons; first, it is critical to the educational setting in which the pupil learns; second, manipulation of pupil organization as a variable (for research or policy) is straightforward (in that one knows when it is accomplished and how much it cost). With a certain amount of money to allocate, policy-makers have to decide between things such as lower class size or new instructional materials. If the effects of various pupil instructional organizations were better understood, decisions could be more rationally made.

Areas that were not investigated here but would be worthwhile to look into include: how teachers make decisions on pupil organization; how different organizational settings affect teacher and pupil behavior;

and what effects resources such as teacher aides and educational hardware (computer terminals, audio-visual materials, etc.) have on how teachers make organizational decisions and on the nature of the resultant educational settings.

3.2.5 Teacher Reliance on Instructional Series

It was stated earlier that teachers rely heavily on published instructional series for selection and arrangement of tasks, method of presentation, and allocation of time to tasks. This is not to say that teachers make conscious decisions to avoid these issues themselves and simply forfeit them to publishers. On the contrary, it is difficult for teachers to use published series and still maintain control of these decisions. This is because it is inherent in publishing a series that these decisions must be made. In order to alter these decisions, teachers must make some alteration in the series. Typically, this alteration comes in the form of the teacher producing her own materials. Of course, teachers may reorganize the series; they may incorporate other published materials; or they may omit certain exercises in the series. It was felt, however, that by getting a measure of how much time pupils worked with teacher-made materials, one could obtain an estimate of the extent to which teachers controlled the issues mentioned above.

In the questionnaire, teachers were asked what percentage of instructional time pupils spent working with teacher-made materials. The mean responses for reading and math materials were 31 percent and 42 percent respectively. One quarter of the teachers used self-constructed materials more than half of the time in reading; over 42 percent used their own materials over half of the time in mathematics. This difference is not surprising since mathematics materials are easier to produce than reading materials, especially exercise sheets.

Primary teachers used somewhat more teacher-made materials in both subjects than upper elementary teachers (an average of 42% for the primary teachers, 37% for the upper elementary teachers). Also, more experienced teachers used teacher-made materials more than less experienced teachers (38% to 30% respectively for teachers with 0 to 7, or 8 or more years of experience). This might be attributed to the less experienced teachers looking for the security of the published series, but it is more likely the result of the more experienced teachers having built up more teacher-made materials.

Again, the results presented are more suggestive than conclusive of the influence of published instructional series, but it is the contention here that the influence is not only powerful, it is subtle. Educators, and particularly teachers, may not realize the influence of the published series on the important planning issues of selection

and arrangement of tasks, method of presentation of instructional material, and allocation of time.

3.2.6 Subject Time Allocations

As mentioned, one of the most important decisions within the purview of the teacher concerns the allocation of time to subjects. Influences on teachers when they make these decisions were discussed earlier. Now we can look at some results of those decisions for the two districts in the study.

In the survey, teachers were asked to record their best estimates of how many minutes per week they spent in each of their subjects. Some subjects were listed by only a few teachers and not included in this analysis and some subjects were subsumed under more general subject areas. Five subjects were listed by most of the teachers and they appear in Table 4 along with the mean and standard deviation of the minutes allocated to them by all teachers.

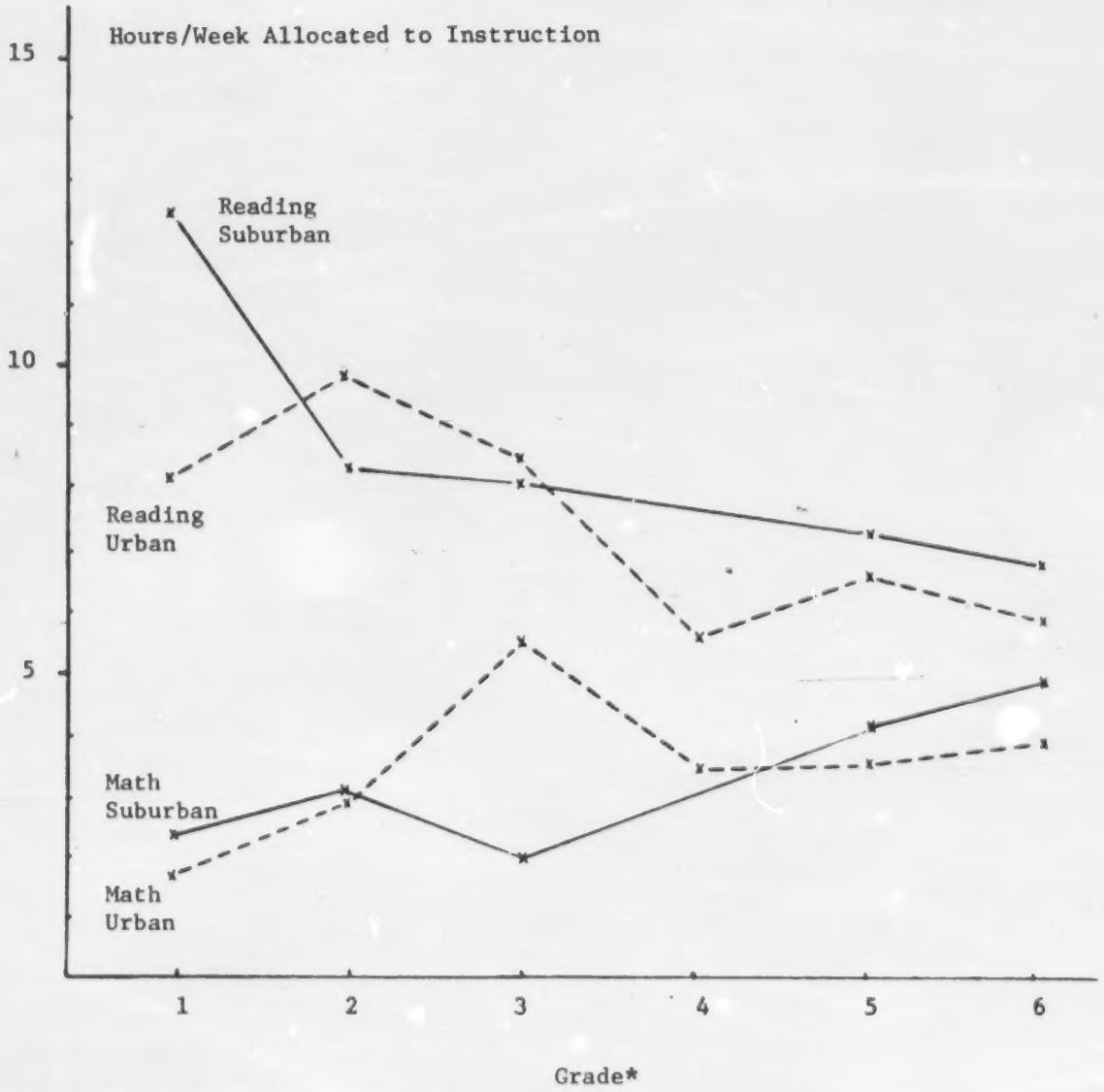
Table 4. Weekly Subject Time Allocations

Subject	Mean	Standard Deviation
Reading	5 hr., 47 min.	3 hr., 12 min.
Mathematics	3 hr., 33 min.	1 hr., 27 min.
English	2 hr., 14 min.	1 hr., 18 min.
Social Studies	2 hr., 10 min.	1 hr., 10 min.
Science	1 hr., 49 min.	1 hr., 3 min.

It can be readily seen that reading occupies by far the largest block of time in elementary school classrooms, followed by the other subjects in order. The standard deviations seem rather large. Of course, these standard deviations are calculated on allocations summed over grades and the focus of instruction shifts over those grades. Figure 10 shows the mean allocations of reading and mathematics time for the urban and suburban samples across all elementary grades.

In examining Figure 10, it can be seen that mathematics time increases and reading time decreases as one progresses through the elementary grades. (The sample sizes used to plot these points are fairly small in some instances. The reader might engage in some visual smoothing of the lines.) It is interesting that the suburban teachers allocate more time to reading and mathematics although the urban system has severe problems with reading and mathematics achievement.

Figure 10. Allocations of Time to Reading and Mathematics in the Urban and Suburban Samples.



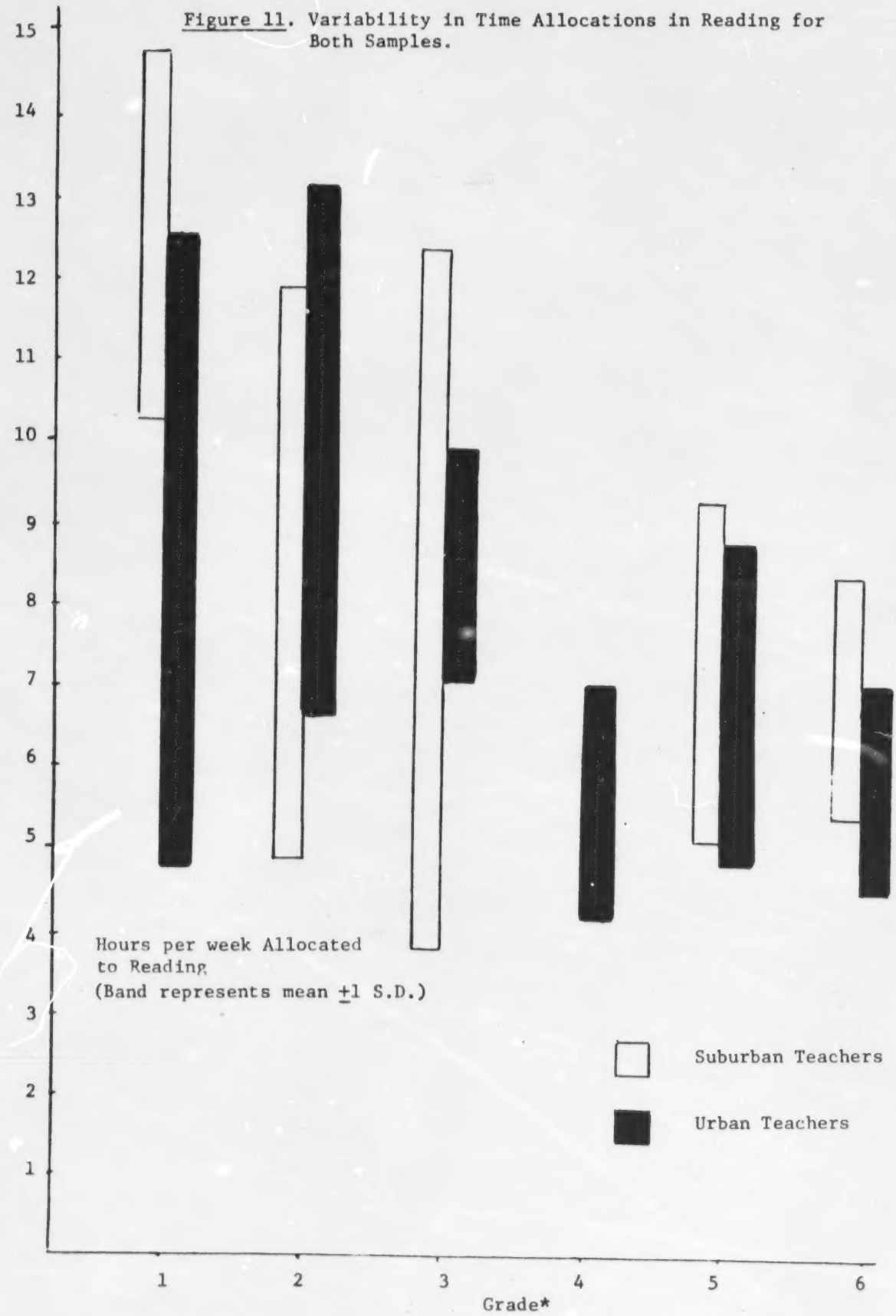
*There were no fourth grade suburban teachers responding.

Even though some of the variation in allocations may be a result of change over grades, the variation that remains is incredibly large. Figure 11 presents the mean time allocation per grade level plus and minus one standard deviation for both urban and suburban teachers. This presents a conservative estimate of the range that exists in these school systems. It should be noted in examining this figure that these classrooms are not ability-grouped. Pupils in the third grade suburban school could be receiving over 11 hours, 40 minutes or less than 4 hours, 10 minutes of reading instruction per week.

The variability in allocations at the primary level (grades 1 to 3) is considerably larger than at the upper elementary level (grades 4 to 6). To some extent, this is probably due to the means being higher at the primary level. The variability in mathematics allocations (not shown here) is also substantial though not quite as large as in reading.

There are a number of possible ameliorating factors to be considered here. The first possibility concerns systematic misperceptions of allocations. Responding teachers might have made errors in their estimates which exaggerate the differences between the highest and lowest allocations. A second factor might be that the teachers with lower allocations may be more efficient with their instructional time.

Figure 11. Variability in Time Allocations in Reading for Both Samples.



*There were no fourth grade suburban teachers responding.

It may also be the case that subjects listed as social studies or science may have high reading components. Even with these potential factors, it is difficult to avoid the conclusion that teachers, autonomously making time allocation decisions, make allocations that differ drastically. The implications of these differences will be addressed in the next section.

4. Conclusions and Implications

Before concluding this effort, some attempt should be made to emphasize those aspects of the paper which are believed to be the most important; also, the implications for educational research and policy should be discussed.

4.1 Summary of Aspects of the Model

In looking at the model of teacher planning that was presented, perhaps the most striking feature is the amount of control the teacher has in determining the nature of instruction for her class. The classroom teacher controls time allocations, grouping decisions, subject content and emphasis, and method of presentation. While it is apparent that there are strong influences on the teacher when she is making these decisions, they are, nonetheless, hers to make.

Among the specific aspects of the model, the influence of the weekly school schedule on the time allocations, and the grouping practices of teachers are of particular interest. The use of a weekly subject schedule is quite common among elementary teachers and strongly influences (if not determines) subject time allocations. The weekly subject schedule itself is influenced by the weekly school schedule. While the process of developing a weekly subject schedule is similar across teachers, the results vary substantially. It appears as if many teachers allocate time according to personal preferences and the affective responses of their pupils. The subject of time allocations and their consequences would seem to merit considerable further investigation.

Organization of pupils for instruction also proved to be of interest, but the influences on grouping practices were somewhat elusive. Admittedly, grouping practices were not a primary concern of the study, but some indications of influences on grouping practices were discerned. Teachers with more pupils tend to use whole class instruction more and individualized instruction less, with small group instruction remaining fairly constant. This can be viewed as a result of the allocation of resources by the school system since class size can be fairly directly controlled administratively.

There seems to be some consistency among teachers with respect to the organization of pupils for instruction. Nearly all teachers use small group instruction for reading and most use small groups for mathematics. However, the size of groups, number of groups and amount of group time with the teacher present are important considerations, and these presumably vary among teachers. Although this was not investigated in the study, it is an area that appears to have great potential in the study of the effects of classroom teaching.

Finally, it is important to mention again the variation in teacher time allocations. While there was undoubtedly some misperception on the part of some responding teachers on this question, the conclusion that time allocations vary considerably is irresistible. Reported allocations in both reading and mathematics vary by a factor of 2 at every grade level and by a factor of 3 in several grades. Ameliorating factors could not possibly account for discrepancies this large. The cumulative effect of a pupil having several teachers on the low or high end of these distributions in a subject could be dramatic.

4.2 Implications for Educational Research and Policy

As mentioned at the beginning of the paper, educational research has not focussed on decisions that teachers make prior to the beginning

of the school day or prior to the beginning of the school year. It is believed that research in this area would be highly important, since these decisions are critical to the process of learning in classrooms. There are a number of areas of teacher planning which appear to have substantial impact on learning in classrooms, but the amount of knowledge about the effect of particular decisions is so sparse as to make specific recommendations difficult at best. A few things are clear, and a few others clearly need a closer look.

The variation in time allocations should be of concern to school administrators. Even as a result of careful tailoring of time allocations to the particular needs of pupils in classrooms, one would not expect as much variation as is observed. Further, these allocations are not the result of careful tailoring; decisions on time allocations are typically made at the beginning of the year, before teachers have met their classes.

Reliance on instructional series for selection and arrangement of tasks, emphasis of tasks, and method of presentation varies among teachers, but can be quite strong, especially for inexperienced teachers. Another area for consideration is the effect of the school schedule on time allocations to subject areas. The development of school schedules

should be viewed in light of such time allocations.

Also of consequence for educational policy is the organization of pupils for instruction. Little is known about the effects of various organizational strategies (concerning number of groups, who they are supervised by, how large they should be, etc.). Research in this area could provide information that would lead to more reasoned judgments and decisions in the allocation of educational resources.

A final word: Research in teacher planning is difficult. It does however, hold potential for classroom learning, and has received only the slightest attention. It might be an appropriate time to consider planning as the beginning of classroom instruction.

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